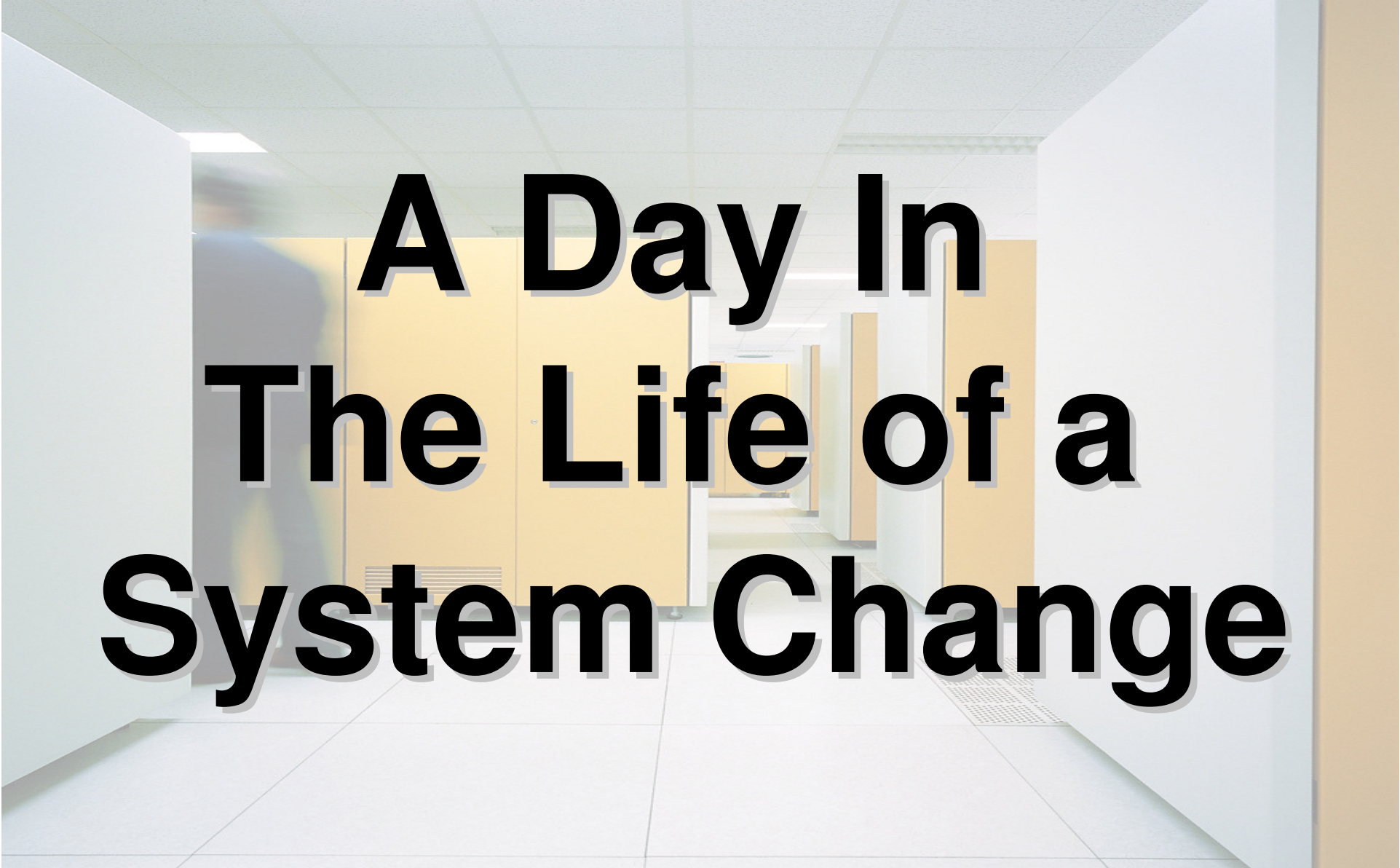
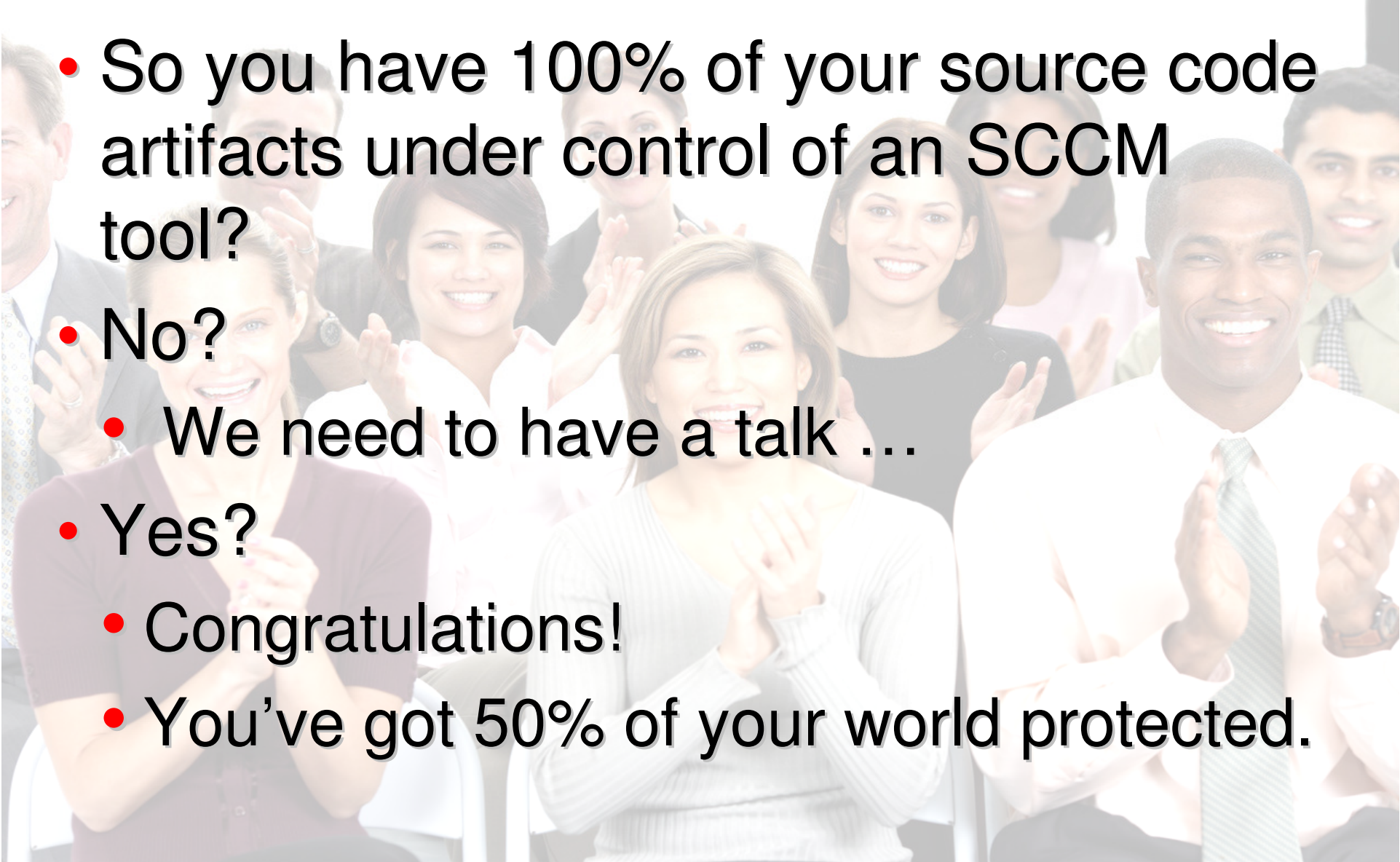




A Day In The Life of a System Change

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- 
- So you have 100% of your source code artifacts under control of an SCCM tool?
 - No?
 - We need to have a talk ...
 - Yes?
 - Congratulations!
 - You've got 50% of your world protected.

What Drives Change In Your Application Environment ?

- New Business
- Application Modernization
- Mergers & Acquisitions
- Regulation Compliance
- Defects
- Issues
- Emergencies

What Drives Change In Your System Environment ?

- System Upgrades
- Software Patches
- Software Rationalization
- Migration
- Consolidation
- Disaster Recovery
- Application Retirement

Data Center Demands

- Availability
- Recoverability
- Stability
- Accessibility
- Performance
- Security
- Compliance
- SLAs

Balancing Act



Do you know ?

- What is changing?
- What is not?
- Why is it changing?
- By whom and when?
- Was this the only change?
- How you can recover?
- Were you notified?
- Can you replicate it?



System Software Manager

Think of Any Valuable Asset

- SYS1.PARMLIB.**
- SYS1.LOADLIB.**
- SYS1.LINKLIB.**
- SYSTEM.IMS*. **
- SYSTEM.DB2*. **
- SYSTEM.CICS*. **
- SYS2.**. PROD
- SYS2.**.UAT
- SYS2.**.TEST
- BILLING.**
- RAWMAT.**
- HR.2009.**
- HR.2010.**
- FINANCE.**
- SAP.*.2009
- HOGAN.**
- CYBERLIF.**

1. Ticket entered in Request Management system (RM)
2. RM System approval & prioritization
3. RM assignment given to a System Programmer
4. System Programmer creates package in SCCM/SMPE
5. System Programmer makes change in SCCM/SMPE
6. Manager approves SCCM package and change installed
7. System Software Manager (SSM) traps the change
8. SSM notifies manager of change
9. Manager validates the SSM change with original request
10. SSM propagates change to other LPARS
11. Change is auditable on RM, SCCM, SMPE and SSM

On a Not So Good Day

1. Change happens
2. SSM traps the system change
3. SSM alerts the manager
4. Manager does not validate change
 - No RM ticket
 - No documentation
 - No assignment
 - No SCCM package
 - No SMPE
3. SSM can still propagate change
4. SSM can also recover from change
5. Change still auditable in SSM



**System Upgrade
Software Patch
Scheduled Maintenance
Unplanned Request**



Making Changes StarTool FDM

```
----- List files SSM      - (Attributes) --- Row 1 to 13 of 13
COMMAND ==>                                SCROLL ==> CSR
- DSN=LGASCA.SSM.LPARA.PANELS,VOL=SER=SRSM32  MEM=: -----
CMD  C  V DATA/MSG -----DATA SET NAME ----- VOLUME DO RECFM LRECL BLKSI
      Y M          LGASCA.JCLLIB_____ SRSM32 PO FB      80  3120
      Y M          LGASCA.SSM.BASKET_____ E10510 PS U        0  4096
      Y M          LGASCA.SSM.FGP.LPARA_____ E10510 PS FB     512  4096
      Y M          LGASCA.SSM.FGP.LPARB_____ E10510 PS FB     512  4096
      Y M          LGASCA.SSM.LOG_____ SRSM32 PS FBA     133 27930
E    Y M *EDIT*    LGASCA.SSM.LPARA.INSTALL_____ SRSM32 PO FB      80  6000
E    Y M *EDIT*    LGASCA.SSM.LPARA.LOAD_____ SRSM32 PO U        0  6000
E    Y M *EDIT*    LGASCA.SSM.LPARA.MESSAGES_____ SRSM32 PO FB      80  6000
E    Y M *EDIT*    LGASCA.SSM.LPARA.PANELS_____ SRSM32 PO FB      80  6000
      Y M          LGASCA.SSM.LPARB.INSTALL_____ E10510 PO FB      80  6000
      Y M          LGASCA.SSM.LPARB.LOAD_____ E10510 PO U        0  6000
      Y M          LGASCA.SSM.LPARB.MESSAGES_____ E10510 PO FB      80  6000
      Y M          LGASCA.SSM.LPARB.PANELS_____ SRSM32 PO FB      80  6000
***** Bottom of data *****
```

Making Changes StarTool FDM

----- ZAP Display for HPSBACK-HPSBACK

- Row 1 to 19 of 139

COMMAND ==> zap

SCROLL ==> CSR

Enter an ISPF command or a special control code:

- DSN=LGASCA.SSM.LPARA.LOAD,VOL=SER=SRSM32 MEM=HPSBACK

BASE = 000000 ADDRESS OFFSET = 000000

CMD	MODULE	BASE	MSG	----- HEX DATA -----				-- CHARACTER --
	ADDR	OFFSET		0...2... 4...6... 8...A... C...E...				0...4...8...C...
	000000	000000		47F0F0AA	0000009E	40C8D7E2	C2C1C3D2	*.00..... HPSBACK*
	000010	000010		4040F0F1	61F0F861	F0F940F2	F04BF1F1	* 01/08/09 20.11*
	000020	000020		40E5C5D9	40F8F3F2	40C39697	A8998987	* VER 832 Copyrig*
	000030	000030		88A34096	8640E285	99859581	40E29686	*ht of Serena Sof*
	000040	000040	*ZAP	A3A68199	854040F2	F0F1F000	00000000	*tware 2010.....*
	000050	000050		00000000	00000000	00000000	00000000	**
	000060	000060		00000000	00000000	00000000	00000000	**
	000070	000070		00000000	00000000	00000000	00000000	**
	000080	000080		00000000	00000000	00000000	00000000	**
	000090	000090		00000000	00000000	00000000	00000000	**
	0000A0	0000A0		00000000	00000000	000090EC	D00C18CF	*}*
	0000B0	0000B0		5830C004	18034510	C0BA0A0A	18211BEE	* ..{.....{*
	0000C0	0000C0		1BFF0E2E	5010D008	50D01004	18D150C0	*&}.&}.J&{*
	0000D0	0000D0		D0005810	D0049803	101447F0	C110182D	* }....}.q....0A...*
	0000E0	0000E0		5830C004	5850D048	58D0D004	5050D010	* ..{..&}.}..&}.*
	0000F0							}....0A.....*
	000100		*** ZAP COMPLETE, ENTER EDITLOG TO VIEW ZAP CARDS					.0{...q.}...*
	000110							.6830.....Y*
	000120	000120		D703D06C	D06C4DE0	A57CD20B	B270C54C	*P.}%}%(\v@K...E<*



Making Changes StarTool FDM

```
----- SOURCE MEMLIST 1, Session# 1 ----- Row 35 to 51 of 51
COMMAND ==>                                SCROLL ==> CSR
Enter an ISPF command, a StarTool subcommand or a special control code:
- DSN=LGASCA.SSM.LPARA.MESSAGES,VOL=SER=SRSM32 MEM=: -----
CMD  NAME      DATA/MSG VER.MOD  CREATED      LAST   MODIFIED      SIZE  INIT  ID
    HPS35                00.00  2007/11/09  2007/11/09  16:52      18      0  SSM832
    HPS36                00.00  2007/11/09  2007/11/09  16:52      31      0  SSM832
    HPS37                00.00  2007/11/09  2007/11/09  16:52      29      0  SSM832
    HPS38                00.00  2007/11/09  2007/11/09  16:52      21      0  SSM832
    HPS39                00.00  2007/11/09  2007/11/09  16:52      28      0  SSM832
    HPS40                02.01  1999/03/23  2009/05/22  11:11      20     15  IMACROB
    HPS41                02.01  1999/03/23  2009/03/26  12:17      27      6  IMACROB
    HPS50                00.00  2007/11/09  2007/11/09  16:52      27      0  SSM832
    HPS51                00.00  2007/11/09  2007/11/09  16:52      21      0  SSM832
    HPS52                00.00  2007/11/09  2007/11/09  16:52      30      0  SSM832
    HPS53                00.00  2007/11/09  2007/11/09  16:52      15      0  SSM832
    HPS54                00.00  2007/11/09  2007/11/09  16:52      21      0  SSM832
    HPS55                00.00  2007/11/09  2007/11/09  16:52      26      0  SSM832
DEL  HPS56                00.00  2007/11/09  2007/11/09  16:52      21      0  SSM832
DEL  HPS57                02.01  1999/04/05  2009/05/22  11:19      30      3  IMACROB
DEL  HPS58                00.00  2007/11/09  2007/11/09  16:52      12      0  SSM832
DEL  HPS59                00.00  2007/11/09  2007/11/09  16:52      31      0  SSM832
***** Bottom of data *****
```



System Software Manager

----- ChangeMan SSM Main Menu (Ver 8.3.2) Time: 13:13:12 -----

Option ==> █

Select one of the highlighted functions:

- | | |
|---------------------------------|--|
| 0 Options | - Review or Modify Parameters |
| A Administration | - Change Tracking Administrator Functions |
| C Change Tracking | - History, Problem Determination, Recovery |
| Z HFS Change Tracking | - HFS History, Problem Determination |
| S Detection and Synchronization | - Detect Changes and Synchronize MVS data |
| H HFS - Detect and Synchronize | - Detect Changes and Synchronize HFS data |
| D Data Extraction | - Extract Changed Data in KSDS, other VSAM, PS or DA files and Flattened Databases |
| U Utilities | - Utilities and Self-guided Product Demos |
| X Exit | |

ChangeMan SSM
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Press END to Exit



Change Notification

----- ISPMODE Session# 1 Log# 1 --- Row 577 to 595 of 722

COMMAND ==> █ SCROLL ==> CSR

Enter an ISPF command, a starTool subcommand or a special control code:

- DSN=LGASCA.SSM.LPARA.MESSAGES,VOL=SER=SRSM32 MEM=: -----

.SUBJECT: ChangeMan SSM RTCT Member Event Notification

.TO: N1.LGASCA

.
. ChangeMan SSM RTCT Member Event Notification
. Type of event: UPDATE - This member has been updated
. Member name: HPSBACK
. Data Set name: LGASCA.SSM.LPARA.LOAD
. Volume: SRSM32
. Date: 2010/01/29
. Time: 13:33:50
. Update by
. User: LGASCA
. Program: IKJEFT01
. Job: LGASCA
. LPAR: E001

INMR900I -----

Change Notification

----- ISPMODE Session# 1 Log# 1 --- Row 640 to 658 of 722

COMMAND ==> █ SCROLL ==> CSR

Enter an ISPF command, a starTool subcommand or a special control code:

- DSN=LGASCA.SSM.LPARA.MESSAGES,VOL=SER=SRSM32 MEM=: -----

.SUBJECT: ChangeMan SSM RTCT Member Event Notification

.TO: N1.LGASCA

.
ChangeMan SSM RTCT Member Event Notification

. Type of event: DELETE - This member has been deleted

. Member name: HPS56

. Data Set name: LGASCA.SSM.LPARA.MESSAGES

. Volume: SRSM32

. Date: 2010/01/29

. Time: 13:36:47

. Update by

. User: LGASCA

. Program: IKJEFT01

. Job: LGASCA

. LPAR: E001

.
INMR900I -----



Change Notification

Serena.com Mail - ChangeMan SSM RTCT Member Event Notif. - lgasca@serena.com - Windows Internet Explorer

https://mail.google.com/a/serena.com/#inbox/1267bf74bc94a5c4

File Edit View Favorites Tools Help

Share Browser WebEx

Serena.com Mail - ChangeMan SSM RTCT Member Eve...

Reply Forward

☆ SSMRTCT@serena.com to me [show details](#) 3:32 PM (13 minutes ago) Reply

ChangeMan SSM RTCT Member Event Notification
HOST: [E001.SERENA.COM](#)

Type of event: UPDATE - This member has been updated
Member name: SSMPROC
Data Set name: LGASCA.SSM.LPARA.INSTALL
Volume: SRSM32
Date: 2010/01/29
Time: 13:32:08
- Hide quoted text -

Update by
User: LGASCA
Program: IKJEFT01
Job: LGASCA
LPAR: E001

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Reply Forward

☆ SSMRTCT@serena.com to me [show details](#) 3:36 PM (8 minutes ago) Reply

ChangeMan SSM RTCT Member Event Notification

Done

Internet 100%

Track Changes

----- Change Tracking User Menu - LGASCA -----
Option ==> 3■

- | | | |
|---|----------------------------------|--|
| 1 | Capture Object or Browse Events | - Make Object Tracking current |
| 2 | Capture Group and Browse Events | - Make Group Tracking current |
| 3 | Query Events and Report | - Show Events in an Object or Group |
| 4 | Recover Members | - Recovery of changed members |
| 5 | Recover Entire PDS through Batch | - Recovery of all members to a date/time |
| 6 | Tracking Summary on an Object | - Object physical characteristics |
| 7 | Tracked Groups | - List of Tracked Groups |
| 8 | Tracked Objects | - Tracked Objects in all Groups |
| 9 | Compare Filtered Members | - Side by Side (Source or Load) |
| L | Load Tracking Data to DB2 table | - Loads tracking data for DB2 query |
| X | Exit | |

Press END to Exit



Change Tracking Filters

Events Statistics for Group: DEMOGRP

Command ==>

Enter S to select Type(s) and/or Category from one column at a time.

Object: All Objects in the Group have been evaluated

Events: 4,675

(-)	1048	Added	(-)	3	Uncat	Last Global: 2010/01/29_12:43	
(-)	1052	Delete	(-)	0	DS-upd	Last Capture: n/a	
(-)	113	Update	(-)	85	Reloc		
(-)	2	Status	(-)	2	Comprs		
(-)	0	Linked	(-)	0	Scratch	(-)	0 VS-upd
(-)	0	Zapped	(-)	0	Migrat	(-)	0 VS-reo
(-)	0	Rename	(-)	0	NameTo	(-)	0 VS-def
(-)	2362	Backup	(-)	0	NameFr	(-)	0 VS-del
(-)	8	Restore	(-)	90	DATASET	(-)	0 VSAM
(S)	2215	MEMBER (selects all events except Backup and Restore)					

Optional: Member selection: ==>

* Pattern

Other Filters: Jobname ==> LGASCA Userid ==>

Period: Last n Hours ==> 01

1 thru 99

or Yesterday ==>

Y or blank

or Last n Days ==>

1 thru 99

or Date Range ==>

To ==>

yyyy/mm/dd

Audit Change Events

BROWSE LGASCA2.SYN10029.T1358017.OUTLIST

Command ==>

Line 00000035 Col 001 132

Scroll ==> CSR

PAGE 0000018

Object = catlg - LGASCA.SSM.LPARA.INSTALL

Beg_date/time	End_date/time	Event	Member	Userid	Newname	Program	Jobname	System
2010/01/29_13:31	2010/01/29_13:31	Update	SSMPARM	LGASCA		IKJEFT01	LGASCA	E001
2010/01/29_13:32	2010/01/29_13:32	Update	SSMPROC	LGASCA		IKJEFT01	LGASCA	E001
2010/01/29_13:31	2010/01/29_13:31	Status	SSMPROC	LGASCA		IKJEFT01	LGASCA	E001
2010/01/29_13:32	2010/01/29_13:32	Update	SSMPRO1	LGASCA		IKJEFT01	LGASCA	E001
2010/01/29_13:32	2010/01/29_13:32	Status	SSMPRO1	LGASCA		IKJEFT01	LGASCA	E001

Object = catlg - LGASCA.SSM.LPARA.LOAD

PAGE 0000019

Beg_date/time	End_date/time	Event	Member	Userid	Newname	Program	Jobname	System
2010/01/29_13:33	2010/01/29_13:33	Update	HPSBACK	LGASCA		IKJEFT01	LGASCA	E001
2010/01/29_13:34	2010/01/29_13:34	Update	HPSCOMPR	LGASCA		IKJEFT01	LGASCA	E001
2010/01/29_13:34	2010/01/29_13:34	Update	HPSGLOBE	LGASCA		IKJEFT01	LGASCA	E001

Object = catlg - LGASCA.SSM.LPARA.MESSAGES

PAGE 0000020

Beg_date/time	End_date/time	Event	Member	Userid	Newname	Program	Jobname	System
2010/01/29_13:36	2010/01/29_13:36	Delete	HPS56	LGASCA		IKJEFT01	LGASCA	E001
2010/01/29_13:36	2010/01/29_13:36	Delete	HPS57	LGASCA		IKJEFT01	LGASCA	E001
2010/01/29_13:36	2010/01/29_13:36	Delete	HPS58	LGASCA		IKJEFT01	LGASCA	E001
2010/01/29_13:36	2010/01/29_13:36	Delete	HPS59	LGASCA		IKJEFT01	LGASCA	E001

HPS1319I HPSTRACK 13:58:01 12 selected events in report.



Unauthorized Change Unexpected Change Change Error

Recover Changed Members

----- Change Tracking User Menu - LGASCA -----
Option ==> 4■

- | | | |
|---|----------------------------------|--|
| 1 | Capture Object or Browse Events | - Make Object Tracking current |
| 2 | Capture Group and Browse Events | - Make Group Tracking current |
| 3 | Query Events and Report | - Show Events in an Object or Group |
| 4 | Recover Members | - Recovery of changed members |
| 5 | Recover Entire PDS through Batch | - Recovery of all members to a date/time |
| 6 | Tracking Summary on an Object | - Object physical characteristics |
| 7 | Tracked Groups | - List of Tracked Groups |
| 8 | Tracked Objects | - Tracked Objects in all Groups |
| 9 | Compare Filtered Members | - Side by Side (Source or Load) |
| L | Load Tracking Data to DB2 table | - Loads tracking data for DB2 query |
| X | Exit | |

Press END to Exit



Identify Changed Members

Tracked Objects in Group: DEMOGRP

Row 1 to 4 of 4

Command ==>

SCROLL ==> CSR

Lcmd: (S)elect a library for Member recovery

Press ENTER to continue or END to exit

Tracked Objects		Vol	Event Count	DS ORG	Latest Event-date-time
-	LGASCA.SSM.LPARA.INSTALL	catlg	210	PDS	2010/01/06_09:36
-	LGASCA.SSM.LPARA.LOAD	catlg	134	PDS	2009/11/12_18:18
S	LGASCA.SSM.LPARA.MESSAGES	catlg	141	PDS	2009/11/15_16:19
-	LGASCA.SSM.LPARA.PANELS	catlg	4142	PDS	2010/01/06_09:37
***** Bottom of data *****					



Online or Batch Recovery

Recover Member(s) from Delta Master

Command ====>

Delta-Tracked Data Set: ====> LGASCA.SSM.LPARA.MESSAGES

Member to recover ====> * (Explicit member, or * for a list)
Recovery Mode ====> ONLINE (ONLINE or BATCH)

Pre-Existing or NEW Compatible TARGET Data Set:
(Optional) Data Set Name: ====>

-- NEW ALLOCATION MAY BE SPECIFIED FOR BATCH RECOVERY ONLY --

(NEW)	DASD Unit	====>	(SYSDA, SYSALLDA...)
	Space Units	====>	(TRK, CYL, BLK)
	Primary	====>	(1-99999)
	Secondary	====>	(0-99999)
	Directory	====>	(0-99999)

Member Name ====> RECOVER (saved member name in the user JCL library)

Press ENTER to start online recovery or END to exit



Recovery Options

Backed up Versions of Member (*)

Row 66 to 78 of 78

Command ==>

SCROLL==> CSR

Lcmd: (B)rowse, (C)ompare, (R)ecover or (V)iew version(s).

Press ENTER to continue or END to exit

Delta-Tracked Data Set ==> LGASCA.SSM.LPARA.MESSAGES

Member	Newname	Begin-date/time	End-date/time
— HPS50		2009/09/10_13:52:38	2009/09/10_13:52:38
— HPS51		2009/09/10_13:52:38	2009/09/10_13:52:38
— HPS52		2009/09/10_13:52:38	2009/09/10_13:52:38
— HPS53		2009/09/10_13:52:38	2009/09/10_13:52:38
— HPS54		2009/09/10_13:52:38	2009/09/10_13:52:38
— HPS55		2009/09/10_13:52:38	2009/09/10_13:52:38
— HPS56		2009/09/10_13:52:38	2009/09/10_13:52:38
— HPS57		2009/11/12_00:01:59	2009/11/12_00:01:59
— HPS57		2009/09/10_13:52:38	2009/09/10_13:52:38
— HPS58		2009/11/12_00:01:59	2009/11/12_00:01:59
R HPS58		2009/09/10_13:52:38	2009/09/10_13:52:38
HPS59		2009/11/12_00:01:59	2009/11/12_00:01:59
R HPS59		2009/09/10_13:52:38	2009/09/10_13:52:38

***** Bottom of data *****



Fast Recovery

Backed up Versions of Member (*)

Row 66 to 78 of 78

Command ==>

SCROLL==> CSR

Lcmd: (B)rowse, (C)ompare, (R)ecover or (V)iew version(s).

Press ENTER to continue or END to exit

Delta-Tracked Data Set ==> LGASCA.SSM.LPARA.MESSAGES

Member	Newname	Begin-date/time	End-date/time
HPS50		2009/09/10_13:52:38	2009/09/10_13:52:38
HPS51		2009/09/10_13:52:38	2009/09/10_13:52:38
HPS52		2009/09/10_13:52:38	2009/09/10_13:52:38
HPS53		2009/09/10_13:52:38	2009/09/10_13:52:38
HPS54		2009/09/10_13:52:38	2009/09/10_13:52:38
HPS55		2009/09/10_13:52:38	2009/09/10_13:52:38
HPS56		2009/09/10_13:52:38	2009/09/10_13:52:38
HPS57		2009/11/12_00:01:59	2009/11/12_00:01:59
HPS57		2009/09/10_13:52:38	2009/09/10_13:52:38
HPS58		2009/11/12_00:01:59	2009/11/12_00:01:59
HPS58			
HPS59			
HPS59			

HPS289I Successful recovery of member: HPS59

Recover

Recover

***** Bottom of data *****



**Stand-By Site
Multiple Sites
Disaster Recovery
System Consolidation
Software Migration**

Change 'Shopping' Basket

----- Detection and Synchronization Menu -----

Option ==> 3■

- | | | |
|---|-----------------------|---|
| 0 | Masking and Filtering | - Detection masking and Synchronization filtering |
| 1 | Fingerprint | - Fingerprint an Environment |
| 2 | Review Changes | - Detect changes to a Fingerprinted Environment |
| 3 | Package Changes * | - Changes to an Environment; Current vs. FGP |
| 4 | Package Data Sets * | - Export full data sets into a Basket |
| 5 | View Basket | - Display the list of data sets and their actions |
| 6 | Apply Basket * | - Apply changes to the Target Environment |
| 7 | View Fingerprint | - Display data set names, attributes, and members |
| 8 | Detect Changes | - Compare the Fingerprints of two Environments |
| 9 | Package Changes * | - Changes to an Environment; FGP vs. FGP |
| G | Generate Token | - Fingerprint Token for a single file or PDS member |
| C | Check Synchrony | - Compare selected members in Environment(s) |
| P | PDS Compare | - Produce a MEMTOMEM compare report for two PDS's |
| S | Synchronize * | - Two local Environments, or just save a Basket |
| A | Advanced Operations | - Batch jobs suitable for large Environments |
| X | Exit | - Press END to Exit |



Change 'Shopping' Basket

Package Changes

Command ==> ■

Specify a Fingerprint DSN or a Pattern to package the changes made to the environment since the Fingerprint was taken. This panel will generate batch JCL for review/submission.

Fingerprint DSN (Like 3.4) ==> LGSACA.SSM.FGPA.LPARA

Change Basket DSN ==> SSM.BASKET

Basket Comment ==> DESCRIBE THIS CHANGE BASKET HERE

(New only) DASD Unit ==> (SYSDA, SYSALLDA...)

Space Units ==> (TRK, CYL, BLK)

Primary ==> (1-99999)

Secondary ==> (0-99999)

Saved Member Name ==> PACKAGE (Saved member name in user JCL library)

NOTE: The Fingerprint DSN can be specified explicitly, or as a DSN pattern similar to ISPF 3.4. If * is specified alone, the Fingerprint DSN patterns selection table will be displayed.

Press ENTER to continue or END to exit

Verify Shopping Basket

----- Detection and Synchronization Menu -----

Option ==> **5**

- | | | |
|----------|-----------------------|---|
| 0 | Masking and Filtering | - Detection masking and Synchronization filtering |
| 1 | Fingerprint | - Fingerprint an Environment |
| 2 | Review Changes | - Detect changes to a Fingerprinted Environment |
| 3 | Package Changes * | - Changes to an Environment; Current vs. FGP |
| 4 | Package Data Sets * | - Export full data sets into a Basket |
| 5 | View Basket | - Display the list of data sets and their actions |
| 6 | Apply Basket * | - Apply changes to the Target Environment |
| 7 | View Fingerprint | - Display data set names, attributes, and members |
| 8 | Detect Changes | - Compare the Fingerprints of two Environments |
| 9 | Package Changes * | - Changes to an Environment; FGP vs. FGP |
| G | Generate Token | - Fingerprint Token for a single file or PDS member |
| C | Check Synchrony | - Compare selected members in Environment(s) |
| P | PDS Compare | - Produce a MEMTOMEM compare report for two PDS's |
| S | Synchronize * | - Two local Environments, or just save a Basket |
| A | Advanced Operations | - Batch jobs suitable for large Environments |
| X | Exit | - Press END to Exit |



Change Basket Contents

BROWSE LGASCA2.SYN10030.T1051461.OUTLIST

Line 00000029 Col 001 132

Command ==>

Scroll ==> CSR

Contents:

File# 0001 Upd To: SRSM32 LGASCA.SSM.LPARA.INSTALL
From: SRSM32 LGASCA.SSM.LPARA.INSTALL
U-MRTINIT U-MRTREORG U-MRTRP

File# 0002 Upd To: SRSM32 LGASCA.SSM.LPARA.LOAD

PAGE 0000010

From: SRSM32 LGASCA.SSM.LPARA.LOAD
U-HPSTASK1 U-HPSTASK2 U-HPSTASK3

File# 0003 Upd To: E10510 LGASCA.SSM.LPARA.MESSAGES
D-HPS30 D-HPS31 D-HPS32 D-HPS33 D-HPS34

From: E10510 LGASCA.SSM.LPARA.MESSAGES
A-HPS3R

***** Bottom of Data *****

Ship the Basket

----- Detection and Synchronization Menu -----

Option ==> **6**

- | | | |
|----------|-----------------------|---|
| 0 | Masking and Filtering | - Detection masking and Synchronization filtering |
| 1 | Fingerprint | - Fingerprint an Environment |
| 2 | Review Changes | - Detect changes to a Fingerprinted Environment |
| 3 | Package Changes * | - Changes to an Environment; Current vs. FGP |
| 4 | Package Data Sets * | - Export full data sets into a Basket |
| 5 | View Basket | - Display the list of data sets and their actions |
| 6 | Apply Basket * | - Apply changes to the Target Environment |
| 7 | View Fingerprint | - Display data set names, attributes, and members |
| 8 | Detect Changes | - Compare the Fingerprints of two Environments |
| 9 | Package Changes * | - Changes to an Environment; FGP vs. FGP |
| G | Generate Token | - Fingerprint Token for a single file or PDS member |
| C | Check Synchrony | - Compare selected members in Environment(s) |
| P | PDS Compare | - Produce a MEMTOMEM compare report for two PDS's |
| S | Synchronize * | - Two local Environments, or just save a Basket |
| A | Advanced Operations | - Batch jobs suitable for large Environments |
| X | Exit | - Press END to Exit |



Ship the Basket

Apply Basket

Command ==>

The Basket contains all changed members and/or entire new data sets.

Basket DSN or pattern ==> LGASCA.SSM.BASKET

Apply or Simulate ==> APPLY (APPLY/SIMULATE)

Optional Data Set RENAME:

Old High Level Qualifier ==> LGASCA.SSM.LPARA

New High Level Qualifier ==> LGASCA.SSM.LPARB

Optional VOLSER redirect:

VOLSER for new data sets ==> * (* indicates system-managed allocation)

Saved Member Name ==> APPLY (Saved member name in user JCL library)

Press ENTER to create the JCL or press END to exit.



Submit Distribution

Apply Change Basket

Command ==> ■

Press ENTER to generate JCL to apply the Basket.

Review the JCL, and then submit for execution.

Basket DSN ==>LGASCA.SSM.BASKET

APPLY - The Basket will be applied.
DELETE - Members in Target and not in Base will be DELETED.
SCRATCH - Data sets in Target and not in Base will be SCRATCHED.
CATALOG - New data sets will be CATALOGED.
NOREPLACE - Existing data sets will NOT be replaced.
VOLSER - New data sets will be allocated by the system rules.
HLQ - 'LGASCA.SSM.LPARA'
will be transformed to 'LGASCA.SSM.LPARB'.

For additional settings, use the IMPORT Basket function of the advanced synchronization menu.

Press ENTER to proceed.



Changes Synchronized

===== Data Set Actions =====

<replace> ToVOL: * ToDsn: LGASCA.SSM.LPARB.INSTALL
FromVOL: SRSM32 FromDsn: LGASCA.SSM.LPARA.INSTALL

Name	Alias	Timestamp	Fingerprint	Dir	Timestamp	Fingerprint
MRTINIT		2010/02/01_07:02:00	2D8D4408-0000132F	==>	2009/07/30_06:35:00	F8AAEBF9-0000130A
MRTREORG		2010/02/01_07:02:00	124AE9E1-000009A7	==>	2007/11/09_16:52:00	3FDEEE66-00000961
MRTRP		2010/02/01_07:02:00	64833695-00000E4C	==>	2007/11/09_16:52:00	50893C63-00000E0B

===== Data Set Actions =====

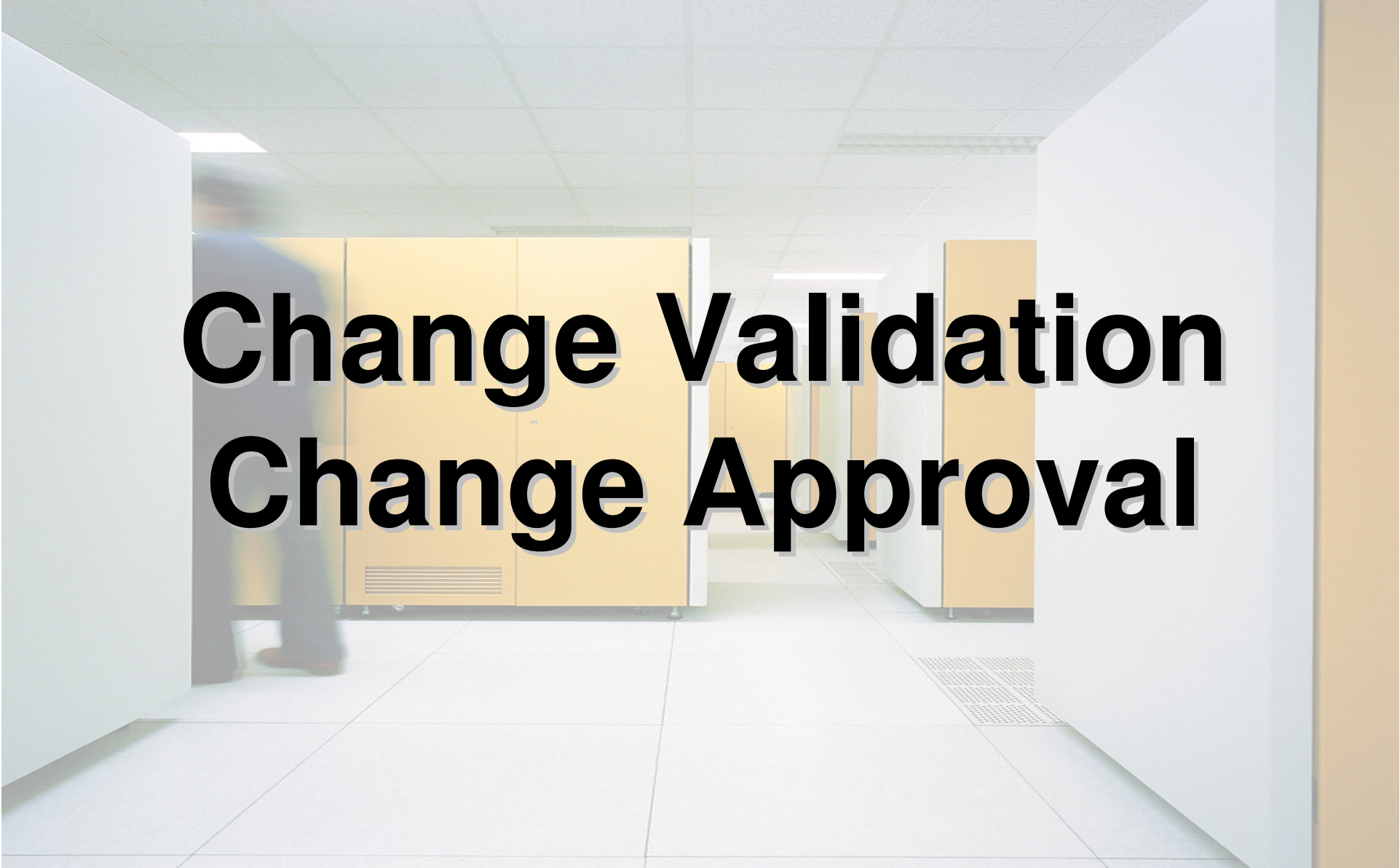
<replace> ToVOL: * ToDsn: LGASCA.SSM.LPARB.LOAD
FromVOL: E10510 FromDsn: LGASCA.SSM.LPARA.LOAD

Name	Alias	Timestamp	Fingerprint	Dir	Timestamp	Fingerprint
HPSBACK		2009/01/08_20:11:27	2DCD26FC-000008A8	<=>	2009/01/08_20:11:27	747C6BF3-000008A8

===== Data Set Actions =====

<deletes> ToVOL: * ToDsn: LGASCA.SSM.LPARB.MESSAGES

Name	Alias	Timestamp	Fingerprint
HPS30		2007/11/09_16:52:00	72453671-0000044A
HPS31		2007/11/09_16:52:00	AF66EC39-00000473
HPS32		2007/11/09_16:52:00	1FA0B680-000004D7

A blurred background image of a server room with rows of yellow and white server racks and a person walking in the distance.

Change Validation Change Approval

Compare Environments

----- Detection and Synchronization - Advanced Operations -----
Option ==> 2

- | | | |
|---|------------------|---|
| 1 | Data Set Compare | - Compare Two Local Partitioned Data Sets |
| 2 | Group Compare | - Local or Remote Environments |
| 3 | Volume Compare | - Compare of two Local Volumes |
| 4 | Fingerprinting | - Large Environments |
| 5 | Create Basket | - Export Changes from the Base; FGP vs. FGP |
| 6 | Import Basket | - Import Changes to the Target |
| 7 | Undo Import | - Recover file(s) from Reverse Basket |
| X | Exit | |

Press END to Exit



Base Environment

Data Set Group Compare (BASE Environment 1 of 2)

Command ==>>

Fingerprint Data Set ==> ■
Select subset by DSN pattern ==> (Optional)
Select subset by DSN type ==> PO,PS,DA,SRC,LOAD (Optional)

--OR--

Cataloged Data Set Pattern ==> LGASCA.SSM.LPARA
Select subset by DSN type ==> PO,PS,DA,SRC,LOAD (Optional)

--OR--

Uncataloged Data Set Pattern ==>
Specify VOLSER Pattern ==>
Select subset by DSN type ==> PO,PS,DA,SRC,LOAD (Optional)

Press ENTER to continue or press END to exit.



Target Environment

Data Set Group Compare (TARGET Environment 2 of 2)

Command ==>>

```
Fingerprint Data Set      ==> █
  Optional DSN Pattern    ==>
  Optional DSN Type       ==> (PO, PS, DA, SRC, LOAD)

      --OR--

Cataloged Data Set Pattern ==> LGASCA.SSM.LPARB
  Optional DSN Type       ==> (PO, PS, DA, SRC, LOAD)

      --OR--

Uncataloged Data Set Pattern ==>
  Volser Pattern          ==>
  Optional DSN Type       ==> (PO, PS, DA, SRC, LOAD)

Optional Base HLQ ==> LGASCA.SSM.LPARA (Model)
  Targ HLQ        ==> LGASCA.SSM.LPARB (Model)

Report Type      ==> CUSTOM (Custom/Default)
  Member Name    ==> GRPTOGRP (Saved member name in user JCL library)
```

Press ENTER to create the JCL or press END to exit.



Audit Synchronized Environments

SDSF OUTPUT DISPLAY LGASCAGC J0394649 DSID 103 LINE 51 COLUMNS 02- 133
COMMAND INPUT ==> SCROLL ==> CSR

PAGE 0000004

HPS0920I HPSTRANS 10:31:05 Long DSNBYDSN Report:

Partitioned Data Sets compared: 0

Base	Target	S u m m a r y
0	0	Member name matches
0	0	Synchronized members
0	0	Out-of-sync members
0	0	Member name mismatches
0	0	Aliases (Non-orphaned)
0	0	Orphaned aliases

HPS0000I HPSTRANS 10:31:05 Job Started: 2010/01/30_10:30:59
Job Ended : 2010/01/30_10:31:05
Warning cnt: 0
Severe msgs: 0

***** BOTTOM OF DATA *****



System Cleansing Storage Optimization



Member Copy StarTool FDM

----- SOURCE MEMLIST 1, Session# 1 ----- Row 9 to 29 of 1,020

COMMAND ==>

SCROLL ==> CSR

Enter an ISPF command, a StarTool subcommand or a special control code:

- DSN=LGASCA.SSM.LPARA.PANELS,VOL=SER=E10510 MEM=: -----

CMD	NAME	DATA/MSG	VER.	MOD	CREATED	LAST	MODIFIED	SIZE	INIT	ID
	HPSBADM1		00.00		2007/11/09	2007/11/09	16:52	38	0	SSM832
	HPSBADM2		00.00		2007/11/09	2007/11/09	16:52	100	0	SSM832
	HPSBOM1		00.00		2007/11/09	2007/11/09	16:52	37	0	SSM832
	HPSBOM2		00.00		2007/11/09	2007/11/09	16:52	125	0	SSM832
copy	HPSCALT	hpscalt2	00.00		2007/11/09	2007/11/09	16:52	35	0	SSM832
copy	HPSCDSN	hpscdsn2	00.00		2007/11/09	2007/11/09	16:52	233	0	SSM832
copy	HPSCHFS	hpschfs2	00.00		2007/11/09	2007/11/09	16:52	74	0	SSM832
■	HPSCONG1		00.00		2007/11/09	2007/11/09	16:52	37	0	SSM832
	HPSCONG2		00.00		2007/11/09	2007/11/09	16:52	113	0	SSM832
	HPSCONG3		02.01		2005/06/05	2009/03/25	14:16	165	132	IMACROB
	HPSCONG4		00.00		2007/11/09	2007/11/09	16:52	102	0	SSM832
	HPSCONHI		00.00		2007/11/09	2007/11/09	16:52	179	0	SSM832
	HPSCONHR		00.00		2007/11/09	2007/11/09	16:52	61	0	SSM832
	HPSCONH1		00.00		2007/11/09	2007/11/09	16:52	166	0	SSM832
	HPSCONH2		00.00		2007/11/09	2007/11/09	16:52	197	0	SSM832
	HPSCONH3		00.00		2007/11/09	2007/11/09	16:52	85	0	SSM832
	HPSCONH4		00.00		2007/11/09	2007/11/09	16:52	170	0	SSM832
	HPSCONH5		00.00		2007/11/09	2007/11/09	16:52	166	0	SSM832
	HPSCONH6		01.02		2009/03/23	2009/03/26	12:18	186	197	IMACROB
	HPSCONOI		00.00		2007/11/09	2007/11/09	16:52	50	0	SSM832
	HPSCONOR		00.00		2007/11/09	2007/11/09	16:52	86	0	SSM832



Redundancy Detection

----- ChangeMan SSM Utilities Menu (Ver 8.3.2)

Option ==> 7

Select one of the following options:

- | | | |
|---|----------------------|--|
| 1 | Compress | - Compress FGP or Change Basket for transfer |
| 2 | FTP to a Remote Host | - Transfer compressed FGP or Change Basket |
| 3 | Expand | - Expand compressed FGP or Basket back to source |
| 4 | Snapshot | - Gather DASD/DSN information; VTOC and VVDS level |
| 5 | Snapshot Comparison | - Report matches/mismatches between two Snap files |
| 6 | Convert VSAM Basket | - Edit a VSAM Change Basket for Partial APPLY |
| 7 | Redundancy Detection | - Report redundant (by content) data sets/members |
| D | Demo | - ChangeMan SSM guided tutorial |
| H | HFS Demo | - ChangeMan SSM HFS Support guided tutorial |
| X | Exit | - Exit this menu |

Press END to Exit

Report Parameters

Data Set Group, Volume or DASD Pool Redundancy Detection

Command ==> █

Specify Explicit or Pattern Volser(s) to create the TOKENS Data Set. You may select SUBSET(s) of data sets by specifying the DSN Pattern(s) and/or Type(s). Multiple specifications can be separated using commas.

Explicit Volser or data set pattern ending with /:

VOLSER	==> *	(Blank: Use existing Token DSN)
DSN (optional)	==> LGASCA.SSM.LPARA.PANELS	
DSN type (optional)	==> PDS	(LOAD, SRC, PDS, PO, PS, DA)

New or Existing Token DSN	==> LGASCA.SSM.FGP.LPARA	
(New only) DASD Unit	==>	(SYSDA, SYSALLDA...)
Space Units	==>	(TRK, CYL, BLK)
Primary	==>	(1-99999)
Secondary	==>	(0-99999)

Redundancy Report Type	==> M	M- Member D- Dataset B- Both
Descending Sort Order	==> 2	1- Space 2- Redundancy Level
Member Name	==> DASDRED	Member name in user JCL library

Press ENTER to create the JCL or press END to exit.



Member Redundancy Report

SDSF OUTPUT DISPLAY LGASCARD J0693029 DSID 113 LINE 15 COLUMNS 02- 133

COMMAND INPUT ==> █

SCROLL ==> CSR

(M E M B E R) R E D U N D A N C Y R E P O R T

Red	Group-size	Recoverable	Member	Volser	Member-size			
Lev	Bytes	Bytes			Dsname-----	hash-bytes	Updat-Time-Stamp	Owner
001	2,188	1,094	HPSCALT	E10510	LGASCA.SSM.LPARA.PANELS.....	1,094	2007/11/09_16:52	SSM832
			HPSCALT2	E10510	LGASCA.SSM.LPARA.PANELS.....	1,094	2007/11/09_16:52	SSM832
001	596	298	HPSHTF6B	E10510	LGASCA.SSM.LPARA.PANELS.....	298	2007/11/09_16:52	SSM832
			HPSHTF67	E10510	LGASCA.SSM.LPARA.PANELS.....	298	2007/11/09_16:52	SSM832
001	4,376	2,188	HPSCHFS	E10510	LGASCA.SSM.LPARA.PANELS.....	2,188	2007/11/09_16:52	SSM832
			HPSCHFS2	E10510	LGASCA.SSM.LPARA.PANELS.....	2,188	2007/11/09_16:52	SSM832
001	2,342	1,171	HPSPROG2	E10510	LGASCA.SSM.LPARA.PANELS.....	1,171	2007/11/09_16:52	SSM832
			HPSPROG4	E10510	LGASCA.SSM.LPARA.PANELS.....	1,171	2007/11/09_16:52	SSM832
001	616	308	HPSHINF2	E10510	LGASCA.SSM.LPARA.PANELS.....	308	2007/11/09_16:52	SSM832
			HPSHMEN2	E10510	LGASCA.SSM.LPARA.PANELS.....	308	2007/11/09_16:52	SSM832
001	592	296	HPSHTF6A	E10510	LGASCA.SSM.LPARA.PANELS.....	296	2007/11/09_16:52	SSM832
			HPSHTF66	E10510	LGASCA.SSM.LPARA.PANELS.....	296	2007/11/09_16:52	SSM832



Member Redundancy Report

SDSF OUTPUT DISPLAY LGASCARD J0693029 DSID 113 LINE 37 COLUMNS 02- 133

COMMAND INPUT ==> █ SCROLL ==> CSR

001	758	379	HPSHS023	E10510	LGASCA.SSM.LPARA.PANELS.....	379	2007/11/09_16:52	SSM832
			HPSHS024	E10510	LGASCA.SSM.LPARA.PANELS.....	379	2007/11/09_16:52	SSM832

001	19,266	9,633	HPSCDSN	E10510	LGASCA.SSM.LPARA.PANELS.....	9,633	2007/11/09_16:52	SSM832
			HPSCDSN2	E10510	LGASCA.SSM.LPARA.PANELS.....	9,633	2007/11/09_16:52	SSM832

HPS0808I HPSREPT 23:27:45 ** R E D U N D A N C Y S U M M A R Y (MEM) **

8 Redundant groups

16 Included members

1 Highest redundancy level

30,734 Total bytes in all groups

15,367 Recoverable bytes from all groups

HPS0000I HPSREPT 23:27:45 Job Started: 2010/07/26_23:27:45

Job Ended : 2010/07/26_23:27:45

Warning cnt: 0

Severe msgs: 0

***** BOTTOM OF DATA *****



Retiring Applications Software Rationalization Vendor Consolidation



Zero Reference Report

2008/11/21 15:07:59

ChangeMan SSM - MRT Zero-Reference Report

Page 1

Data Set Name

Member Member Member Member Member Member Member Member Member Member

Parameters Used:

ZEROREF

FROM: 2008/05/22_00:00

TO: 2008/11/21_23:59

DSN: WSER20.DRM*

MEM: *

WSER20.DRM.LINKLIB

BAKISTOW	COMPAREZ	ESPYCB39	HPSCOMPR	HPSDCOMP	HPSDSFTL	HPSDSFTP	HPSEXPAN	HPSGLOBE	HPSGROUP
HPSHBSKA	HPSHBSKE	HPSHBSKV	HPSHFGPA	HPSHFGPC	HPSHFGPE	HPSHFGPR	HPSHFGPV	HPSHFS	HPSIATCH
HPSIBLDL	HPSIBSCR	HPSICLOS	HPSIDCAL	HPSIDCAM	HPSIDCVS	HPSIDESX	HPSIDV	HPSIHARR	HPSIHCLD
HPSIHFD	HPSIHFP	HPSIHLXE	HPSIHUNL	HPSILINK	HPSILOAD	HPSINIT	HPSISTOW	HPSIXCTL	HPSMAINT

WSER20.DRM.SRC

BAKCSITV	BAKINIT	BAKINTEG	BAKTRACK	BAKZAUTH	BAK8CONV	BALANCE	BBBTRANS	DANIEL	ESPYCB39
EXPAND	HFSFGP	HPSCOMPR	HPSDCOMP	HPSDSFTL	HPSDSFTP	HPSEXPAN	HPSGLOBE	HPSHFGPC	HPSIATCH
HPSIBLDL	HPSICLOS	HPSIDCAL	HPSIDCAM	HPSIDV	HPSILINK	HPSILOAD	HPSINTEG	HPSISTOW	HPSIXCTL
SSM8CONV	TEMP	TEST	TIMECONV	TREESORT	UTIL	UTILHFS	UTILPDE2	UTILPDS	UTILPDSE
UTILPDS2	UTILRACF	UTIL8	UTLDSERV	WSER20Z					

WSER20.DRM83.MAC

BAKSERV	BLDHTREE	CPXSERV	DSECTBAS	DSECTOM	DSECTS	DSECTS2	DYNCOMM	HFSCOMM	HFSSERV
MODELSYS	MVGRP	NAMPATCH	NEWSERV	SERHFS	TEMP				

WSER20.DRM83.SRC

AAARTO	AAAZUSER	BACIHCLD	BACKUP	BAKDSFTP	BBBRTD	CMNIDV01	COPYRITE	CPXTRANS	CR105280
HPSBASKV	HPSCOMPR	HPSDCOMP	HPSDSFTL	HPSGLOBE	HPSIATCH	HPSIBLDL	HPSIBSCR	HPSIDCAM	HPSIDVC
HPSMRTRP	HPSOINIT	HPSRBLD	HPSRCNTL	HPSSERV	HPSSNAPP	HPSSNAPR	HPSSNAPV	HPSTASK2	HPSTCOMP
HPSVINIT	HPSZCOMP	HPSZISVC	HPSZMLS	HPSZSVC	HPSZSYNC	HPSZUSER	MODELSYS	M1ADSFTP	NEWDSFTP
NEWIBLDL	NEWIHFD	NEWIHFP	NEWINTEG	NEWTRACK	NEWTRANS	NEW2INIT	OLDIHARR	OLDTRANS	OPTTRACK
PCINSTAL	PCSAMP	PCTEST	PJWATTL	TEMP	TRADMARK	TREEVINE	TSTRBLD	TTRDSFTP	

File last updated: 2008/11/20 11:36:54

Total Records Read: 393663

Unreferenced Members: 267

Highest Return Code - 00

2008/11/21 15:07:59

ChangeMan SSM - MRT Zero-Reference Report *** EXCEPTIONS ***

Page 1

HPS0260I PDS has no referenced members: WSER20.DRM.LIST
HPS0260I PDS has no referenced members: WSER20.DRM.MAC
HPS0260I PDS has no referenced members: WSER20.DRM83.MSGS
HPS0260I PDS has no referenced members: WSER20.DRM84.MAC

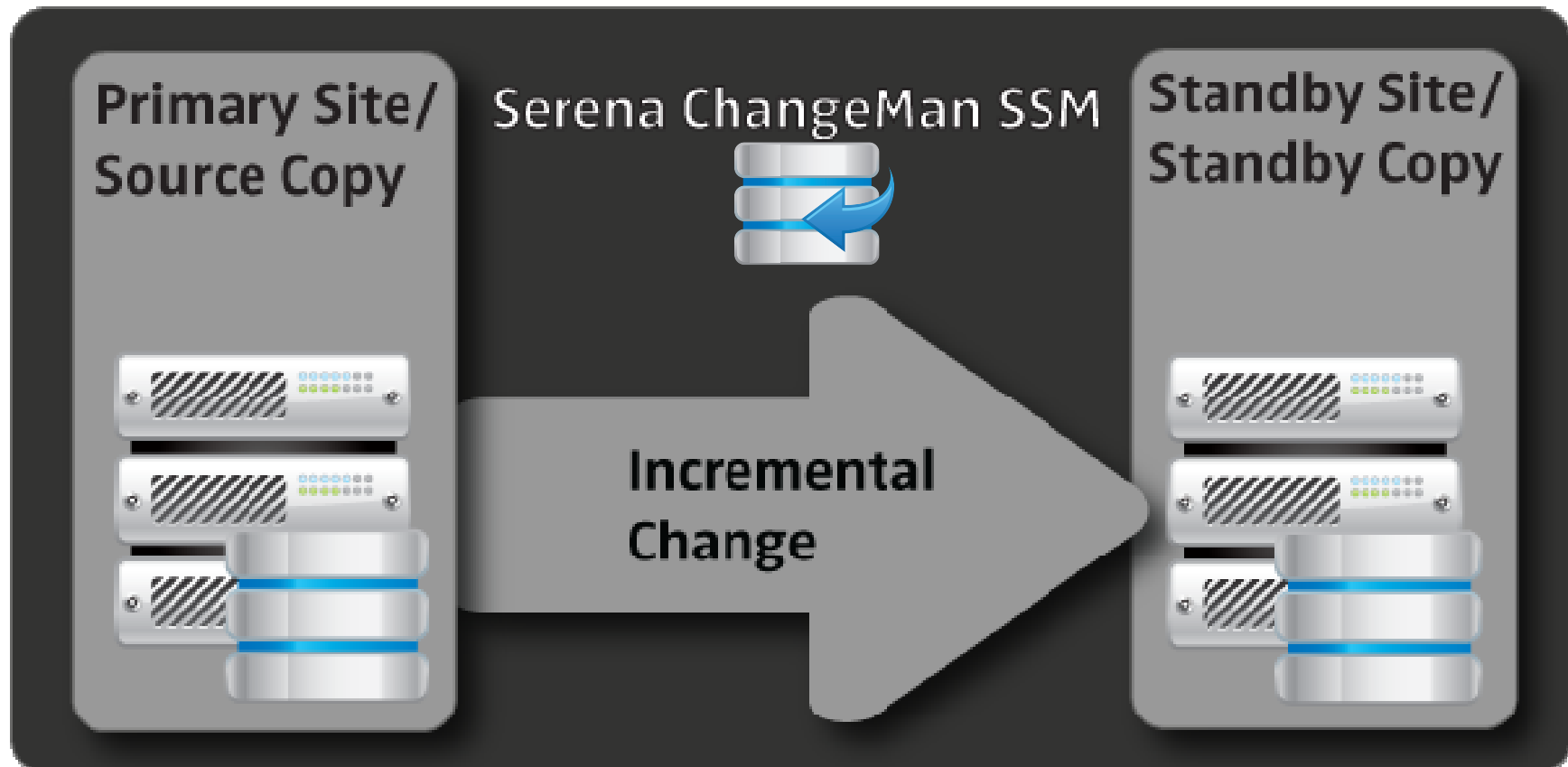


ChangeMan® **SSM**

Change Tracking



Change Synchronization



- Increased Availability
- Rapid Recovery
- Change Accountability
- Software Rationalization
- Faster Consolidation
- Audit Compliance



**Superior
Change
Management**



**System
Software
Management**



**Unified Data
Management**



**Problem
Diagnosis &
Resolution**



**Process
Optimization
& Tuning**



**Universal
Data
Validation**



**ChangeMan®
ZMF**



**ChangeMan®
SSM**



**StarTool®
FDM**



**StarTool®
DA**



**StarTool®
IOO**



Comparex®



Serena Delivers

A background image showing three business professionals (two men and one woman) in a modern office hallway with large windows and glass railings. They are smiling and looking towards the camera.

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Thank You !

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